

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report Nos. 50-266/84-14(DRSS); 50-301/84-12(DRSS)

Docket Nos. 50-266; 50-301

License Nos. DPR-24; DPR-27

Licensee: Wisconsin Electric Power Company
231 West Michigan
Milwaukee, WI 53201

Facility Name: Point Beach Nuclear Power Plant, Units 1 and 2

Inspection At: Point Beach Site, Two Creeks, WI

Inspection Conducted: August 6-10, 14 and 15, 1984

Inspectors: *M. J. Oestmann*
M. J. Oestmann

8/24/84

A. G. Januska
A. G. Januska

8/29/84

Approved By: *M. C. Schumacher*
M. C. Schumacher, Chief
Independent Measurements and
Environmental Protection Section

8/29/84

Inspection Summary

Inspection on August 6-10, 14 and 15, 1984 (Report Nos. 50-266/84-14(DRSS); 50-301/84-12(DRSS))

Areas Inspected: Routine unannounced inspection of: (1) confirmatory measurements, including sampling, laboratory quality control, and conformance of licensee analyses with those of the Region III Mobile Laboratory and the NRC Reference Laboratory; (2) radiological environmental monitoring program (REMP) including program management, quality control, and implementation; and (3) licensee actions taken on an open item identified in a previous inspection. The inspection involved 82 inspector-hours onsite by two NRC inspectors.

Results: No violations or deviations were identified during this inspection.

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DETAILS

1. Persons Contacted

- J. Zack, Manager, Nuclear Operations, Point Beach Nuclear Plant
- *R. Link, Superintendent, Engineering, Quality, and Regulatory Services
- J. Reisenbuechler, Superintendent, Technical Services
- *T. Koehler, General Superintendent, Operations and Support
- *F. Flentje, Supervisor, Staff Services
- T. Fredericks, Radiochemist
- T. Slack, Specialist, Nuclear Chemistry
- *E. Hinshaw, Specialist, Nuclear Chemistry
- R. Neustadter, Specialist, Nuclear Chemistry
- R. Bredvad, Plant Health Physicist
- **M. Logan, Quality Assurance Engineer
- R. Bruno, Superintendent, Training
- J. Moniot, Specialist, Nuclear Training
- M. Moseman, Specialist, Nuclear Environmental
- E. Manos, Specialist, Nuclear Environmental

- *R. Hague, NRC Senior Resident Inspector

The inspectors also interviewed several other licensee personnel during the course of the inspection, including chemistry, and health physics personnel.

*Denotes those present at the plant exit interview on August 10, 1984.

**Denotes those present during telephone conversations on August 14 and 15, 1984.

2. Licensee Action on Previous Inspection Findings

(Closed) Open Item (50-266/83-06-01; 50-301/83-06-01): Review of Chemistry Analytical Methods and Procedures (CAMP) due to be completed by December 1983. The inspectors reviewed 55 CAMP procedures prepared by the licensee in 1982 and 1983, some of which had been revised in 1984, and found no problems.

3. Management Controls, Organization, Training and Qualifications

The inspectors reviewed the licensee's management controls for implementation of the requirements of the radiological environmental monitoring program (REMP). In accordance with the "Environmental Monitoring Manual," Revision 2, dated June 1982, the Manager, Nuclear Operations, has the primary responsibility for implementation of the REMP as well as any actions to be taken on the results of the program. The Manager of the Nuclear Engineering Section (NES) in the Corporate Office provides assistance to the Manager, Nuclear Operations in verifying that environmental programs satisfy Technical Specifications and ensuring that all portions of these programs are adequately administered and audited. Furthermore, the Superintendent - Chemistry and Health Physics, under the Manager,

Nuclear Operations, is responsible for the daily conduct of the REMP. A Specialist, Nuclear (Environmental Coordinator) is responsible for assuring collection of samples on a prescribed frequency in accordance with T/S 15.4.10 and for reviewing the sample collection data sheets. The Environmental Coordinator also reviews the monthly reports, issued by the licensee contractor, Teledyne Isotope, Inc. for anomalous results, and the environmental log sheets for completion of required calibrations and maintenance of air sampling equipment. No problems were identified.

The organization and staffing of the Chemistry Group were reviewed. At present the position of Superintendent - Chemistry and Health Physics is vacant. A radiochemist has assumed much of the responsibilities of this Superintendent. The radiochemist meets the qualifications of the position description required in ANSI/ANS 3.1-1978 and appears to have management support adequate to effectively meet plant chemistry requirements. Three Nuclear-Chemistry Specialists and eight radiochemical technicians (RCTs) provide support for the daily chemistry/radiochemistry program.

During the past year, the licensee has used a contractor for training of experienced RCT's in a three week course. On a long term basis, the licensee purchased the contractor's training material and the Training Department in cooperation with the Chemistry Group is tailoring the material to the Chemistry Group needs. This training program will be completed and presented to 5 new RCT's, currently gaining on-the-job experience, by the summer of 1985. This item will be examined in a future inspection (Open Item 50-266/84-14-01; 50-301/84-12-01).

The five new RCT's are currently undergoing on-the-job training under supervisory observation. The training is being administered by senior chemistry technicians on a five month cycle including 1 month in each of Counting Room, Primary Chemistry, Secondary Chemistry, Sewage Treatment, and four one week reviews of each of the preceding. No tests are given; qualifications are determined and confirmed by the senior technician who provided the training and documented in a letter to the Plant Superintendent with a copy to the Training Department.

No violations or deviations were identified.

4. Implementation of the Radiological Environmental Monitoring Program (REMP)

The inspector reviewed semi-annual and monthly REMP reports from the licensee contractor, Teledyne Isotopes, Inc. for 1983 to date of this inspection, to assure compliance with the sampling schedule in T/S Table 15.4.10-1. All samples, including missing ones were accounted for. No anomalous results were noted.

The inspector also verified that an annual land census of milch animals was performed on September 30, 1983, resulting in no change in location of dairy farms.

Review of licensee's sample collection log sheets indicated that preventive maintenance, leak testing and calibration of air samplers were performed according to schedule. Calibrations are performed every six months in accordance with the Environmental Manual.

A tour of the selected environmental monitoring stations indicated that the air samplers were properly installed, operable, and calibrated in all cases. NRC thermoluminescent dosimeters collocated with the licensee's were found to be current.

In addition, no problems were identified in the contractor's internal QC program, or in the results of his participation in the U.S. EPA's cross check program for interlaboratory comparisons.

No violations or deviations were identified.

5. Implementation of Quality Assurance/Quality Control (QA/QC) Program

a. Procedures and Records Review

The inspectors reviewed selected Chemistry Standing Orders (CSO), Environmental Standing Orders (ESO), and the Chemistry Analytical Methods and Procedures Manual (CAMP). Procedures were found to be technically correct and current; most were being implemented in the laboratory. No problems were noted during review of CSO-9 "Analytical Chemistry QA Program," describing the QA/QC program performed by the RCTs. This program includes monthly analyses of blind chemistry samples provided by the licensee's corporate office.

b. Quality Control of Laboratory and Counting Room Program

Check sheets and laboratory log sheets were reviewed to assure that line items have been completed. The check sheets were completed on the proper frequency and log sheets contained current data.

The laboratory appears to be well maintained. The licensee implements CAMP 105 and CAMP 200 for shelf life, preparation and storage of chemicals. Reagent bottles display the shelf life of the chemical and either the preparation date or the date the chemical bottle was opened.

Calibrations for the licensee's two Canberra gamma spectroscopy systems were reviewed. The calibrations are current, well documented and appears to be of high quality. The results of the Confirmatory Measurements comparison substantiate the accuracy of the calibrations.

c. Quality Control of Laboratory Performance

All RCTs are required to perform analyses of two samples per month to check accuracy (nearness of a measurement to an acceptable value) and/or precision (reproducibility of measurements). The samples, prepared by onsite laboratory specialists, are primarily for non-

radiological analyses but do include tritium and gross beta. The inspectors reviewed select sample summary sheets and found good accuracy and precision. One set of test results examined demonstrated a weakness in the procedure for boron analysis when the sample pH is not neutral. The procedure was revised to require that a pH of 7 be established before running the analysis.

The inspector discussed the desirability of entering into a radiological cross check program with the EPA, a contractor or another power plant. The licensee acknowledged these comments.

6. Independent Measurements

While touring the licensee's chemistry laboratory, the inspectors made independent velocity measurements of three hoods. Two of the hoods had face velocities in excess of 100 linear feet per minute. The remaining hood, whose face velocity was measured at less than 50 feet per minute, had a Modification Request 84-137 submitted and signed on June 25, 1984 to correct the problem of flow.

7. Licensee Internal Audits

The inspector examined licensee review and audit activities in the area of environmental monitoring and chemistry and radiochemistry to assure compliance with T/S 15.6.5.3. Audit reports and meeting minutes of the Offsite Review Committee (OSRC) for 1983 to date of this inspection were reviewed. On December 11-13, 1983, OSRC audited the REMP program to assure compliance with T/S 15.4.10 and no findings were identified. The licensee reported that an audit was performed by the licensee's Corporate Office on the performance of the licensee's REMP contractor, Teledyne Isotopes, Inc. in 1983 but no audit report was available at the plant to review. The licensee agreed to send a copy of the report to the NRC. This item will be examined in a subsequent inspection. (Open Item 50-266/84-14-02; 50-301/84-12-02)

The licensee stated that an audit of chemistry and radiochemistry was performed in June 1984 but was unable to find any report during the time the inspector was onsite. The licensee agreed to continue searching for a report and send it to NRC when it becomes available. Discussions were held by telephone with the licensee on August 14 and 15, 1984 regarding this matter. This item is considered unresolved. (Unresolved Item 50-266/84-14-03; 50-301/84-12-03)

No violations or deviations were identified.

8. Confirmatory Measurements Comparison

Air particulate, charcoal, gas and liquid samples were collected by the licensee, and analyzed by the licensee and in the Region III Mobile Laboratory. Activity in the air effluent pathways was low, as verified by counting performed by the Region III inspectors, and after multiple sampling, containment entry samples were used for these comparisons. The

licensee's primary gamma spectroscopy system (Canberra Series 90) was used to count all samples for comparison and, in addition, the backup system (Canberra Series 80 with detector #2) was used for liquid and charcoal adsorber samples.

The licensee achieved all agreements (twenty-six). The licensee agreed to further analyze the liquid sample for gross beta, tritium, strontium-89 and 90 and submit the results to Region III. The results will be compared to those of the NRC Reference Laboratory and reported in an addendum to this report. (Open Item 266/84-14-04; 301/84-12-04)

A sample of primary coolant was analyzed by the inspectors for a radiochemical E determination. The sample was isotopically analyzed for fission gas, activation products, halogens and other fission products. The results indicate that the sample was only a few percent of Technical Specification limit.

9. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance or deviations. An unresolved item disclosed during the inspection is discussed in Section 7.

10. Exit Interview

The inspectors met with licensee representatives denoted in Section 1 at the conclusion of the inspection on August 10, 1984. The inspectors summarized the purpose, scope and findings of the inspection. The licensee agreed to analyze a liquid waste sample for gross beta, tritium and strontium and report the results to Region III. The licensee also agreed to provide audit reports in environmental monitoring and chemistry and radiochemistry. On August 14 and 15, 1984, the licensee also discussed by telephone the availability of the audit report of the REMP contractor and agreed to continue to search for the report in chemistry. The inspector discussed this as an unresolved item.

Attachments:

1. Table 1 Confirmatory
Measurement Program
Results - 3rd Quarter
1984
2. Attachment 1 Criteria for
Comparing Analytical
Measurements

TABLE 1

U S NUCLEAR REGULATORY COMMISSION
 OFFICE OF INSPECTION AND ENFORCEMENT
 CONFIRMATORY MEASUREMENTS PROGRAM
 FACILITY: POINT BEACH
 FOR THE 3 QUARTER OF 1984

SAMPLE	ISOTOPE	-----NRC-----		----LICENSEE----		---LICENSEE:NRC---		
		RESULT	ERROR	RESULT	ERROR	RATIO	RES	T
L WASTE	CO-58	1.2E-05	5.9E-07	1.1E-05	8.4E-07	9.0E-01	2.0E 01	A
DET #4	CO-60	5.9E-05	1.2E-06	5.6E-05	3.7E-06	9.6E-01	4.9E 01	A
	CS-134	3.0E-05	7.9E-07	3.3E-05	2.2E-06	1.1E 00	3.9E 01	A
	CS-137	7.0E-05	1.1E-06	7.3E-05	4.7E-06	1.0E 00	6.7E 01	A
	CE-144	8.0E-05	2.5E-06	7.6E-05	7.3E-06	9.5E-01	3.2E 01	A
	AG-110M	1.0E-05	4.4E-07	8.3E-06	1.2E-06	8.1E-01	2.3E 01	A
DET #2	CO-58	1.2E-05	5.9E-07	1.1E-05	6.5E-07	9.0E-01	2.0E 01	A
	CO-60	5.9E-05	1.2E-06	5.2E-05	1.1E-06	8.9E-01	4.9E 01	A
	CS-134	3.0E-05	7.9E-07	3.4E-05	1.1E-06	1.1E 00	3.9E 01	A
	CS-137	7.1E-05	1.1E-06	6.6E-05	1.4E-06	9.4E-01	6.7E 01	A
	CE-144	8.0E-05	2.5E-06	7.6E-05	3.8E-06	9.5E-01	3.2E 01	A
	AG-110M	1.0E-05	4.4E-07	9.4E-06	1.9E-06	9.1E-01	2.3E 01	A
OFF GAS	KR-85	1.3E-02	4.5E-04	1.5E-02	1.9E-03	1.1E 00	2.9E 01	A
	XE-133	1.7E-03	8.4E-06	1.5E-03	1.6E-04	8.9E-01	2.1E 02	A
C FILTER	I-131	9.4E-04	1.3E-04	8.1E-04	3.1E-05	8.6E-01	7.3E 00	A
DET #4	I-133	1.3E-03	2.0E-04	1.0E-03	4.4E-05	8.0E-01	6.4E 00	A
DET #2	I-131	9.4E-04	1.3E-04	7.5E-04	4.3E-05	8.0E-01	7.3E 00	A
	I-133	1.3E-03	2.0E-04	1.0E-03	6.8E-05	8.0E-01	6.4E 00	A
P FILTER	I-131	9.8E-04	7.2E-05	1.1E-03	8.6E-05	1.1E 00	1.4E 01	A
	I-132	8.7E-03	2.0E-04	7.1E-03	4.5E-04	8.2E-01	4.4E 01	A
	I-133	8.0E-03	1.5E-04	8.5E-03	5.4E-04	1.1E 00	5.4E 01	A
	I-134	1.1E-02	4.0E-04	8.9E-03	5.2E-04	8.1E-01	2.8E 01	A
	I-135	1.1E-02	5.7E-04	1.3E-02	9.8E-04	1.2E 00	1.9E 01	A
	RB-88	1.4E-01	1.4E-02	1.0E-01	1.0E-02	7.6E-01	9.4E 00	A
	RU-106	4.1E-03	7.7E-04	6.0E-03	6.9E-04	1.5E 00	5.4E 00	A
	CS-138	2.7E-02	1.3E-03	2.1E-02	1.4E-03	7.9E-01	2.1E 01	A

T TEST RESULTS:
 A=AGREEMENT
 D=DISAGREEMENT
 P=POSSIBLE AGREEMENT
 N=NO COMPARISON

ATTACHMENT 1

CRITERIA FOR COMPARING ANALYTICAL MEASUREMENTS

This attachment provides criteria for comparing results of capability tests and verification measurements. The criteria are based on an empirical relationship which combines prior experience and the accuracy needs of this program.

In these criteria, the judgment limits are variable in relation to the comparison of the NRC's value to its associated one sigma uncertainty. As that ratio, referred to in this program as "Resolution", increases, the acceptability of a licensee's measurement should be more selective. Conversely, poorer agreement should be considered acceptable as the resolution decreases. The values in the ratio criteria may be rounded to fewer significant figures to maintain statistical consistency with the number of significant figures reported by the NRC Reference Laboratory, unless such rounding will result in a narrowed category of acceptance.

<u>RESOLUTION</u>	<u>RATIO = LICENSEE VALUE/NRC REFERENCE VALUE</u>
	<u>Agreement</u>
<3	No Comparison
<u>≥</u> 3 and <4	0.4 - 2.5
<u>≥</u> 4 and <8	0.5 - 2.0
<u>≥</u> 8 and <16	0.6 - 1.67
<u>≥</u> 16 and <51	0.75 - 1.33
<u>≥</u> 51 and <200	0.80 - 1.25
<u>≥</u> 200	0.85 - 1.18

Some discrepancies may result from the use of different equipment, techniques, and for some specific nuclides. These may be factored into the acceptance criteria and identified on the data sheet.